

Horn Antenna Gauge RTG 3920

BENEFITS

- Highest reliability with non-contact radar measurement
- Low Loss Mode gives Custody transfer accuracy
- Easy installation on 8-inch nozzles
- Drip-off antenna according to API Chapter 3.1B, ed 1
- SIL 2 Safety Functions
- TÜV Overfill Protection
- Integrated in TankRadar Rex inventory tank gauging system
- Emulates other vendor's field buses



The horn antenna gauge RTG 3920 is designed for easy mounting in small size openings on storage tanks with fixed roofs. The RTG 3920 gauge gives superior reliability and has no moving parts and no contact with the liquid. It transmits radar waves from a horn antenna towards the liquid surface in the tank. As all TankRadar Rex gauges, RTG 3920 is temperature controlled and has a digital reference for highest level accuracy.

The RTG 3920 gauge is designed for general use on oil products and chemicals. (Except for asphalt and similar products giving thick antenna deposits where the parabolic antenna gauge RTG 3930 is recommended.)

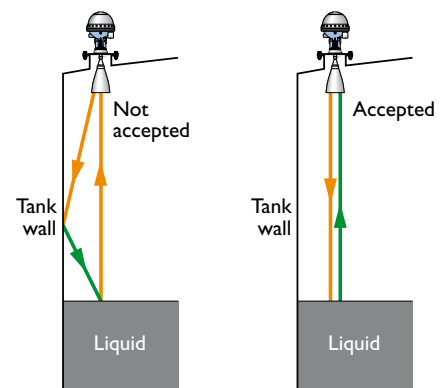
High versatility

RTG 3920 has inputs for temperature sensors, HART® based pressure sensors, other analog inputs as well as analog and relay outputs. All data are transmitted on the two-wire TRL/2 field bus. Temperature sensors are connected directly to the gauge or via a separate Data Acquisition Unit.

The gauge can be equipped with other output buses such as Foundation™ fieldbus, Profibus DP or Tiway and also emulate other vendor's buses.

Installation with tank in service

The gauge is mounted without taking the tank out of operation. Existing field cabling is used for the transmission of field data.



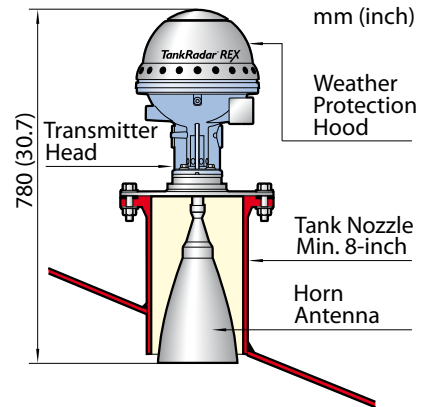
The RTG 3920 radar signal has circular polarization, eliminating the influence from tank wall echoes.

Safety functions

TankRadar Rex could replace a traditional Hi-Hi alarm device. With the RTG 3950 it is possible to use the gauge for overfill protection and simultaneously use it for high accuracy level measurement.

The Rosemount TankRadar Rex RTG 3900 series has been assessed by third party and considered suitable for use in SIL 2 safety functions according to IEC 61511-1. The safety function is based on the relay outputs, by using either one or a combination of two, for overfill or dry run protection.

TankRadar Rex is approved as an overfill protection device by TÜV (Technische Überwachungsverein)¹.



Specification RTG 3920	
Measuring principle	FMCW radar with digital reference and temperature control
Antenna type	High precision curvature horn with drip-off sealing, 175 mm (7 in.) diameter
Instrument accuracy	± 0.5 mm (± 5/256 in.)
Measuring range	0.8 to 20 m (2.6 to 65 ft) below flange [0.3 to 30 m (1 to 98 ft) below flange with reduced accuracy]
Temperature	Ambient: -40° C to 70° C (-40° F to 158° F), Product: max 230° C (445° F)
Pressure	-0.2 to 2 bar (-2.9 to 29 psig)
Material exposed to tank atmosphere	Acid proof steel EN 1.4436 (AISI 316), PTFE (Teflon®) and FPM (Viton®)
Supply voltage	100-240 VAC, 50-60 Hz Optional 34-70 VAC , 20-28 VDC (max 30 W) or 48-99 VDC
Outputs/inputs	Outputs: TRL/2 field bus, 1 pc 4-20 mA, Profibus DP, Foundation™ fieldbus, Tiway, 2 pcs relays, other vendor's field buses Inputs: Temperature (Pt 100), 2 pcs 4-20 mA (of which one HART®, Master)
Display	On separate DAU, RDU or remotely in control room
Tank opening	Nozzle diameter: minimum 200 mm (8 in.) Mounting flange: 8 in. ANSI B 16.5 150 lbs/DN 200 PN 10 DIN 2632/SS2032
Housing	Aluminium, designed for IP 66 & 67
Weight	Appr. 20 kg (44 lbs)
Hazardous locations certifications	ATEX: 0575 II 1/2 G EEx d[ia] IIB T6 UL: Class 1, Div 1, Groups C and D IECEX d IIB T6

Technical details are subject to change without prior notice. For more technical details see the Rex Technical Description.
 1. TÜV is a German testing authority responsible for testing overfill protection equipment according to requirements stated by the German WHG institute concerning water protection.



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